

Extract from AJ's Log

An Autobiography of A. P. B. O. (A Poor Bloody Operator)

by Frank Start - VE3AJ

Frank Start, VE3AJ, spent his life in radio communications. He sailed the Great Lakes, Arctic Seas and oceans of the world as a wireless operator.

He also taught wireless at the Marconi school in Montreal when spark transmitters were in use. In later years he was the Manager of the Marconi Company at Port Arthur, Ontario. In Port Arthur he serviced and installed ship radio equipment such as transmitters, receivers and direction finding equipment on lakers. Subsequent articles in this series relate some of the stories Frank told at meetings of the Lakehead Amateur Radio Club. At the time this collection was compiled Frank was retired and living with his wife in a big ham shack on the banks of the Mighty McIntyre River which ran through his property in the city now called Thunder Bay...

From the log of VE3AJ

(The following reported in June '62 "High-Q".)

It was in my high school days that I first became interested in ether waves. With a crystal detector and a 'single slide tuner', I heard my first Morse signals from the government station VBG (identified by a friend as I did not know the code). That was about 1917 – the war was on and all ham stations were closed down. Progress was slow – ham gear was scarce and so was money. Pictures on hand recorded that in the winter of 1921 - '22, a loose coupler had replaced tuner, or was it the honeycomb coils? The galena crystal was still in use. The transmitter included a spark coil from a Model T Ford. I was issued the call 3JE, as there was no VE prefix at that time. The next improvement was the introduction of a Thorardson transformer in the transmitter. It was actually a 60 cycle unit, but with some added features, it was made to work on 25 cycles. To further improve the whole operation, I became a 'worm warmer' and the ground system became a conglomeration of buried gas stoves, hot water tanks and car axles all tied together with the 1/4 inch copper ribbon from ye old Ford magnetos. Tubes were becoming available, but at a price. The Audiotron was quite popular because it had two filaments and this meant using storage batteries *along* with their usually messy charging arrangements. My first tube was an Electron Relay, a soft triode and its mate, the A.P. amplifier. Worth their weight in gold at nine dollars each. I do not remember how these were acquired, with my first take home pay at five dollars per month, it probably was a case of C.O.D. (Call On Dad).

About this time I went to the Marconi School in Toronto for code speed etc. Here they had a monstrosity called a motor buzzer. It produced one note with the key down and a different one when the key was up. This was OK if you kept your mind on your work, but if you got on the wrong tone, it copied like Chinese. Here we learned all the intricacies of spark transmitters (despite Bangay's book on the subject). Following six months of more or less intense concentration, we sat for our first ticket. In those days they were made of parchment and were issued by the Department of Naval Service.

The winter of 1923/24 saw great improvements in the gear. The latest variometer regenerative receiver with two stages of audio. The transmitter was changed over to CW with two UV -202's in parallel. After much sweat and tears, a fifty-five foot pipe mast stood tall and true in the backyard, thanks to the assistance of neighbours and their offspring. A few years later when I returned from my first sea voyage, I found one of the guy wires had let go and it was now an inverted U. Probably the first **uni-pole antenna**.

The change over from spark to C. W. brought along the usual growing pains. The high voltage D.C. for the plate supply was a problem. The most common solution was an electrolytic rectifier. Many fruit cellars were raided to provide twenty or more pint jars-into which plates of aluminium and lead were immersed in a borax solution. These cells were formed by connecting them in series across the H. T. transformer secondary. As this was just about a short circuit, when the operation commenced, many a transformer learned to **smoke** early in life.

In 1922, in the Toronto area, there was quite a lot of rag chewing concerning the use of regenerative receivers as transmitters. Connect a key to the B+ lead of the receiver, tune in a heterodyne from another receiver and you had a QSO.

The UV-202 was a popular tube for low power transmitters. It was my ambition at one time to **work all states** using one tube. This was done one winter by turning in early, about 9:00 P.M. with the alarm clock under the pillow. Get up about 2:00 or 3:00 A.M. and work C.W. until time to go to work. It was about this time that I developed the habit of falling asleep on the street car en route to the salt mine in the morning.

Loudspeakers had not yet come into common use. Signals were far from the 20 over 9 type of today. Headphones were the order of the day. A criteria of receiver sensitivity was to boast how far you could walk away from your phones, laying on the table, and still hear NAA (*Cutler, Maine*).

Most Toronto area hams belonged to the Wireless Association of Ontario (W.A.O.O.). Monthly meetings were always well attended by enthusiastic crowds. These were the roll your own days and there was much bartering and scrounging of bits and pieces. There has never been such an auction as the first one put on by the W.A.O.O. The buying, selling, swapping and horse trading continued far into the night. Subsequent auctions were never the same, we had all discovered the meaning of reserve bids.

The first Canadian Ham Convention was held in 1922, at the Prince George Hotel, in Toronto. It was attended by hams from far and near. Guest speakers at the dinner included K.B. Warner and Fred Schnell, VIP's from Hartford, Conn. and Commander C.P. Edwards of the Department of Naval Service, Ottawa. It was C.P. Edwards who first introduced the title P.B.O.

It was also in 1922 that the first ham transatlantic tests took place. By combining transmitters with 3SX, we set up four UV-202's in parallel. In the process of tuning and testing we joined the "boiled owls" by working a twenty four hour stretch. Nowadays, hams join this group by attending a field day and staying on the job from 4:00 PM to 4:00 PM. An interesting entry in my log at this time lists the twelve frequencies transmitted by 9AW for local stations to use in

calibrating their transmitters for the transatlantic tests. The one Toronto ham who got through was 3BP. For those who didn't hear the QRM when all the Canadian hams started calling at once – brother – you ain't heard nuttin!

Then I decided to turn professional. My first job was on a large steam tug towing logs to Georgian Bay. The gear was a ½ kW spark with a crystal receiver. Then a short stretch at Midland Coast Station with a 5.5 kW spark transmitter and a crystal receiver. On the wall was a magnetic detector, probably the last one on the Great Lakes. In case of a power failure the P.B.O. had to hand crank a 10 HP horizontal gas engine and belt to drive the generator. I also had a short period on **VBA**, Port Arthur, when the station was at the rear of Prospect School.

By 1925 it began to look like spark transmitters were on the way out. I took a so called CW course in Montreal in preparation for the change that was coming. Following this, and now as the holder of a First Class Ticket, I went on to bigger and better horizons. I headed east for New York and joined an oil tanker trading to South America.

This ship was the “G. Harrison Smith” owned by International Petroleum. It was, at that time the largest ship of its type, capable of carrying a full cargo of oil or a full cargo of ore. It was 571 feet long with a gross tonnage of 15,371 tons. Its normal run was New York to San Pedro (port of Los Angeles) via the Panama Canal, loaded fuel oil for the Chilean Railroad, then up the coast to load Peruvian crude for New York. However the radio gear was a disappointment. A crystal receiver and a spark transmitter which should have been relegated to a Hall of Fame for W/T gear. Rumour had it that this gear had been on the C.P. Montrose and played a part in the arrest of Doctor Crippen in 1910. Fortunately, after one round trip, the old gear was taken off and replaced with a 500 Watt CW/ICW transmitter and a three tube receiver. In light of present day operating, this was a job that ship operators dream about, best described by the Italian expression “dolce far niente”. This ship did not, repeat, did not carry Radar, Auto-Alarm, Direction Finder, Echo Sounder, TV, Gyro Compass or passengers. This, of course, could not last long. In less than two years, the ship completed its South American charter, then one trip, to England and return to New York where the ship was sold. I then spent several months on another tanker by which time I was ready for a change.

There was not much excitement in the tanker trade. I had experienced one fire at sea and two collisions, actually three as there was the time I personally rammed a Chilean cruiser.

Then came a short spell ashore in Halifax office, followed by a lazy summer on a C.S.L. passenger ship on the St. Lawrence River. Next was a West Indies run, the outer islands, south to what was then British Guiana. This ended in a collision off Father Point. So I was on the beach again and scheduled to replace a technician who had been electrocuted. This did not materialize and I spent several summers between Montreal and the Maritimes on ship installations and D.F. calibrations, etc. During this time I made two trips to the Arctic in an old U.S. shipping board vessel, the Beothic. This ship was for several years chartered by the Dominion Government to carry supplies and reliefs to the R.C.M.P. posts in the Eastern Arctic. The W/T gear was English Marconi – a spark transmitter on 500 kc and a tube transmitter on long wave. For the Northern trips, a short wave transmitter was used. A M.O.P.A. using two 203As and a T.R.F. receiver. These voyages took us to Greenland, then north to the R.C.M.P. posts in the Eastern Arctic, the

farthest north being Bache Peninsula, just under 700 miles from the Pole. It was while anchored at Bache that I logged the Byrd expedition in the Antarctic. From an operating standpoint, the trip was not exactly a vacation, owing to S.W. schedules and traffic to be handled. Once again I was not burdened with extra gear, no Radar, no D.F. or Auto-Alarm. In fact the ship did not even have a gyro compass. When we were in Barrow Strait, heading for Melville Island, our compass was pointing south.

Arctic voyages ended my deep sea sailing. I spent three years in Montreal training operators-the school closed down and I returned to Toronto, my old home town. I returned to a more prosaic life, eventually I swallowed the anchor and retired to Port Arthur, Ontario. With the mighty McIntyre River at my back door, and a fair spread of land to string long wire antennas. At the young age of about 88 I hung up my headphones and retired the call sign VE3AJ having held same for many enjoyable years.

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